

REMARKS

Status of Claims

Claims 1-7, 20-21, and 25 are pending. Claims 1-7, 20 and 21 have been rejected. Claims 8-19 and 22-24 have been withdrawn in response to the Examiner's restriction requirement. Claims 1-3, 5-7, and 20 have been amended and new Claim 25 has been added. Claims 1-7, 20-21, and 25 remain for consideration upon entry of the present Amendment. No new matter has been added.

Drawings

The Examiner has objected to the drawings as failing to comply with 37 CFR 1.84(p)(5) because they did not include reference character "28" as described in the specification on page 7, line 13. The sixth paragraph of the Detailed Description is amended, as described above, to delete reference character "28" thereby obviating the requirement to correct the drawings.

Claim Objections

Claim 6 has been objected to because of improper amendment thereof in the previously filed Office Action response. Language was inadvertently removed from the claim during its amendment and was not indicated. Applicants have accordingly properly amended claim 6.

Claim Rejections – 35 U.S.C. §112

Claims 2-3 and 5-7 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Claims 2-3 and 5-7 have been amended to provide clear antecedent basis where lacking and to provide clarity where suggested. Applicants believe that the amendments made to Claims 2-3 and 5-7, as indicated above, resolve the Section 112, second paragraph, issues raised by the Examiner and render the claims definite.

Claim Rejections – 35 U.S.C. §102; U.S. Patent No. 5,788,729 to Jurgensmeyer

Claims 1-5 and 20-21 have been rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,788,729 to Jurgensmeyer (hereinafter “Jurgensmeyer”). The Examiner states that “Jurgensmeyer discloses an apparatus comprising: a support 35, 36; a plurality of members 52 extending from the support, each member spaced apart from the next member and defining an abutment surface; and wherein the abutment surface defines a bearing surface adapted to engage the element, the aspect ratio (width/thickness) reads on the members 52 (Fig. 2, col. 2, line 7 to col. 3, line 47).”

Jurgensmeyer discloses an apparatus for mounting different size filters within an air duct. The frame of the duct includes upper and lower support members 35 and 36 that are channel-shaped as indicated by reference numbers 43 and 45. Removable dividers 50, comprised of base 51 and panel 52, are slidably retained in the support members to establish racks for retaining filters. (See Abstract, lines 1-8, Column 2, lines 28-62, and Fig. 2). The height of the panel 52 (of the divider 50) is substantially equal to that of the side flanges of the per and lower support members 35 and 36. The base 51 of the divider 50 is slidably received within the T-slots. (Column 2, lines 63-66). “Accordingly, the dividers can be slidably inserted and removed from the slots.” (Column 2, lines 66-67). “By mounting the dividers in selected rows, filters of different widths can be mounted in the tracks.” (Column 1, lines 56-57).

Jurgensmeyer fails to disclose, teach or suggest a retainer for buttressing an element subjected to forces applied substantially in one direction, the retainer comprising a support, a plurality of members extending across the support and integrally formed with the support, each member being spaced apart from the next successive member and defining an abutment surface, wherein the abutment surfaces of the plurality of members define a bearing surface adapted to retain the structural integrity of the element when the forces are applied, as recited in Applicant’s amended Claim 1. Jurgensmeyer teaches that the filters placed transverse to the direction of flow are supported by removable panels extending upward and downward from respective upper and lower support frames. The Jurgensmeyer device provides for the placement of different size filters, or multiple filters, each transverse to the direction of flow and spaced apart longitudinally along the direction of flow. This type of apparatus exhibits the shortcomings described in

Paragraph 4 of the section Background of the Invention of Applicant's specification, which shortcomings are overcome by Applicant's invention.

The retainer of the present invention buttresses an element subjected to forces applied substantially in one direction, the flow direction, by providing a support with members extending across the support and integrally formed with the support. The integrally formed members are spaced apart transverse to the direction of flow, not longitudinally along the direction of flow as taught by Jurgensmeyer. Within a configuration similar to that disclosed by Jurgensmeyer, Applicant's invention corresponds to a new, novel and useful device to replace the panel in selected applications. Applicant's retainer supports a substrate that is substantially different from an air filter, and such a substrate could not be supported by the apparatus disclosed by Jurgensmeyer. For example, as disclosed in Applicant's specification (Background of the Invention), the optimization of a catalytic reactor design may require the use of substrates that lack the necessary structural integrity to function properly within the flow stream to which the substrate will be subjected. The panels of Jurgensmeyer may support an air filter in a cooling duct, but such a design will fail to support a substrate element in a catalytic reactor subjected to the forces associated with a fluid passing therethrough. Moreover, Jurgensmeyer teaches away from integrally forming the support structure and members extending therefrom to accommodate different filter configurations. In contrast, Applicant's invention comprises integrally formed members to provide the support along the plane transverse to the direction of flow in order to overcome the shortcoming in the prior art disclosed by Applicant.

To anticipate a claim under 35 U.S.C. §102, a single reference must disclose each and every element of the claimed invention. *Lewmar Marine v. Bariant Inc.*, 3 USPQ2d 1766 (Fed. Cir. 1987). Absence from the reference of any claimed element negates anticipation. *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565 (Fed. Cir. 1986). Because Jurgensmeyer fails to disclose, teach, or suggest a retainer for buttressing an element subjected to forces applied substantially in one direction, the retainer comprising a support, a plurality of members extending across the support and integrally formed with the support, each member being spaced apart from the next successive member and defining an abutment surface, wherein the abutment surfaces of the plurality of members

define a bearing surface adapted to retain the structural integrity of the element when the forces are applied, as recited in Applicant's amended Claim 1, Jurgensmeyer does not disclose each and every element of the invention as recited in Claim 1. Furthermore, because Jurgensmeyer fails to disclose, teach, or suggest a retainer for buttressing an element subjected to forces applied substantially in one direction, the retainer comprising a support having a surface, at least one member integrally formed with the support and extending from the support, each member defining an abutment surface; and wherein the support defines deflection means adjacent at least one member such that the member can expand and contract independently of the support, as recited in Applicant's amended Claim 20, Jurgensmeyer also does not disclose each and every element of the invention as recited in Claim 20. For at least the foregoing reasons, Claims 1 and 20 are not anticipated by Jurgensmeyer.

Dependent claims, by definition, add limitations that further define the subject matter of the independent claims from which they depend. Claims 2-7 and 25 depend from Claim 1, and Claim 1 is believed to be allowable for at least the reasons presented above, therefore Claims 2-7 and 25 are believed to be allowable because they add limitations that further define the subject matter of independent Claim 1. Claim 21 depends from Claim 20, and Claim 20 is believed to be allowable for at least the reasons presented above, therefore Claim 21 is believed to be allowable because it adds limitations that further define the subject matter of independent Claim 20.

Claim Rejections – 35 U.S.C. §102; U.S. Patent No. 3,556,735 to Epelman

Claims 1-5 have been rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 3,556,735 to Epelman (hereinafter “Epelman”). The Examiner states that “Epelman discloses an apparatus comprising: a support 1; a plurality of members 4’, 4”, etc. extending from the support, each member spaced apart from the next member and defining an abutment surface; and wherein the abutment surface defines a bearing surface adapted to engage the element, the aspect ratio (width/thickness) reads on the members 4, 4” (Fig. 1).”

Epelman discloses a muffler that comprises a substantially straight, elongated shell, a pair of end covers defining an inlet and outlet opening, a set of bolts adapted to

engage the end covers, and suitable nuts. (Column 3, lines 1-8). Epelman further discloses that the end covers 2', 2" close both ends of the cylindrical shell 1, and are drawn one against the other by a pair of bolts 3 and nuts 3", 3". Bolts 3 carry a number of transverse partitions 4', 4" arranged in pairs, each pair of partitions defining a cavity 5'. 5" that is filled with a porous packing. (Column 3, lines 59-69, and Fig. 2). Epelman teaches that the device comprises a muffler for purifying the exhaust gases of an internal combustion engine (Column 3, lines 1-2).

Epelman fails to disclose, teach or suggest a retainer for buttressing an element subjected to forces applied substantially in one direction, the retainer comprising a support, a plurality of members extending across the support and integrally formed with the support, each member being spaced apart from the next successive member and defining an abutment surface, wherein the abutment surfaces of the plurality of members define a bearing surface adapted to retain the structural integrity of the element when the forces are applied, as recited in Applicant's amended Claim 1. The support of the present invention is integrally formed with extended members to comprise the retainer. As a result, the support of the present invention is not a shell and the extended members are not fastened to bolts or tie rods within the shell. Similar to Jurgensmeyer, Epelman teaches that the transverse portions 4', 4" are: (i) placed transverse to the direction of flow; (ii) supported by removable means; and (iii) spaced apart longitudinally along the direction of flow. The retainer of the present invention comprises integrally formed members that are spaced apart transverse to the direction of flow, not longitudinally along the direction of flow. Within a configuration similar to that disclosed by Epelman, Applicant's invention corresponds to a new, novel and useful device to replace the partitions 4, 4" in selected applications as disclosed in Applicant's specification.

As stated above with reference to Jurgensmeyer, to anticipate a claim under 35 U.S.C. §102, a single reference must disclose each and every element of the claimed invention. *Lewmar Marine v. Bariant Inc.*, 3 USPQ2d 1766 (Fed. Cir. 1987). Absence from the reference of any claimed element negates anticipation. *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565 (Fed. Cir. 1986). Because Epelman fails to disclose, teach, or suggest a retainer for buttressing an element subjected to forces applied substantially in one direction, the retainer comprising a support, a plurality of members extending

across the support and integrally formed with the support, each member being spaced apart from the next successive member and defining an abutment surface, wherein the abutment surfaces of the plurality of members define a bearing surface adapted to retain the structural integrity of the element when the forces are applied, as recited in Applicant's amended Claim 1, Epelman does not disclose each and every element of the invention as recited in Claim 1. Furthermore, because Epelman fails to disclose, teach, or suggest a retainer for buttressing an element subjected to forces applied substantially in one direction, the retainer comprising a support having a surface, at least one member integrally formed with the support and extending from the support, each member defining an abutment surface; and wherein the support defines deflection means adjacent at least one member such that the member can expand and contract independently of the support, as recited in Applicant's amended Claim 20, Epelman also does not disclose each and every element of the invention as recited in Claim 20. For at least the foregoing reasons, Claims 1 and 20 are not anticipated by Epelman.

Dependent claims, by definition, add limitations that further define the subject matter of the independent claims from which they depend. Claims 2-7 and 25 depend from Claim 1, and Claim 1 is believed to be allowable for at least the reasons presented above, therefore Claims 2-7 and 25 are believed to be allowable because they add limitations that further define the subject matter of independent Claim 1. Claim 21 depends from Claim 20, and Claim 20 is believed to be allowable for at least the reasons presented above, therefore Claim 21 is believed to be allowable because it adds limitations that further define the subject matter of independent Claim 20.

Claim Rejections – 35 U.S.C. §102; U.S. Patent No. 3,913,890 to Lankenau

Claims 1-5 have been rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 3,913,890 to Lankenau, et al. (hereinafter "Lankenau"). The Examiner states that Lankenau "discloses an apparatus comprising: a support 10; a plurality of members 25 extending from the support, each member spaced apart from the next member and defining an abutment surface; and wherein the abutment surface defines a bearing surface adapted to engage the element, the aspect ratio (width/thickness) reads on the members 25 (Fig. 3)."

Lankenau discloses a pipeline through which gases and liquids flow. The pipeline contains relatively hard unattached objects and the objects bounce and tumble when the pipeline is rotated. The action of the balls agitates the mixture passing through the pipeline to promote a cleansing effect. (Abstract, lines 1-10). The pipeline 10 is compartmentalized by providing an internal cage structure 21 comprised of horizontal cross bars 22 extending between end rings 23 and 24. A series of plates 25 having apertures 26 are secured to the cross bars 22. The plates 25 are disposed on a plane substantially normal to the axis of the pipeline 10 and serve to provide compartments 27 within the pipeline 10. (Column 2, lines 58-67, and Fig. 6).

Lankenau fails to disclose, teach or suggest a retainer for buttressing an element subjected to forces applied substantially in one direction, the retainer comprising a support, a plurality of members extending across the support and integrally formed with the support, each member being spaced apart from the next successive member and defining an abutment surface, wherein the abutment surfaces of the plurality of members define a bearing surface adapted to retain the structural integrity of the element when the forces are applied, as recited in Applicant's amended Claim 1. The support of the present invention is integrally formed with extended members to comprise the retainer. As a result, the support of the present invention is not an inner cage and the extended members are not fastened to cross bars comprising the inner cage. Similar to Jurgensmeyer and Epelman, Lankenau teaches that the plates 25 are: (i) placed transverse to the direction of flow; (ii) secured to the cross bars; and (iii) spaced apart longitudinally along the direction of flow. The retainer of the present invention comprises integrally formed members that are spaced apart transverse to the direction of flow, not longitudinally along the direction of flow. Within a configuration similar to that disclosed by Lankenau, Applicant's invention corresponds to a new, novel and useful device to replace the plates 25 in selected applications as disclosed in Applicant's specification.

As stated above with reference to Jurgensmeyer and Epelman, to anticipate a claim under 35 U.S.C. §102, a single reference must disclose each and every element of the claimed invention. *Lewmar Marine v. Barient Inc.*, 3 USPQ2d 1766 (Fed. Cir. 1987). Absence from the reference of any claimed element negates anticipation. *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565 (Fed. Cir. 1986). Because Lankenau fails

to disclose, teach, or suggest a retainer for buttressing an element subjected to forces applied substantially in one direction, the retainer comprising a support, a plurality of members extending across the support and integrally formed with the support, each member being spaced apart from the next successive member and defining an abutment surface, wherein the abutment surfaces of the plurality of members define a bearing surface adapted to retain the structural integrity of the element when the forces are applied, as recited in Applicant's amended Claim 1, Lankenau does not disclose each and every element of the invention as recited in Claim 1. Furthermore, because Lankenau fails to disclose, teach, or suggest a retainer for buttressing an element subjected to forces applied substantially in one direction, the retainer comprising a support having a surface, at least one member integrally formed with the support and extending from the support, each member defining an abutment surface; and wherein the support defines deflection means adjacent at least one member such that the member can expand and contract independently of the support, as recited in Applicant's amended Claim 20, Lankenau also does not disclose each and every element of the invention as recited in Claim 20. For at least the foregoing reasons, Claims 1 and 20 are not anticipated by Lankenau.

Dependent claims, by definition, add limitations that further define the subject matter of the independent claims from which they depend. Claims 2-7 and 25 depend from Claim 1, and Claim 1 is believed to be allowable for at least the reasons presented above, therefore Claims 2-7 and 25 are believed to be allowable because they add limitations that further define the subject matter of independent Claim 1. Claim 21 depends from Claim 20, and Claim 20 is believed to be allowable for at least the reasons presented above, therefore Claim 21 is believed to be allowable because it adds limitations that further define the subject matter of independent Claim 20.

Claim Rejections – 35 U.S.C. §103

Claim 6 has been rejected under 35 U.S.C. 103(a) as being obvious over Jurgensmeyer, Epelman, or Lankenau. The shortcomings of Jurgensmeyer, Epelman, and Lankenau are set forth above. Claim 1 is asserted to be novel and non-obvious for the reasons presented above, and Claim 6 depends from Claim 5 which in turn depends from Claim 1. A claim that depends from a non-obvious claim likewise is non-obvious;

therefore, Claim 6 is believed to be allowable because it adds limitations that further define the subject matter of independent Claim 1 and dependent Claim 5.

Claim 7 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Jurgensmeyer, in view of U.S. Patent No. 4,422,790 to Gebert, et al. (hereinafter "Gebert"). The shortcomings of Jurgensmeyer are set forth above and the teachings of Gebert do not overcome such shortcomings. Claim 1 is asserted to be novel and non-obvious for the reasons presented above, and Claim 7 depends from Claim 1. A claim that depends from a non-obvious claim likewise is non-obvious; therefore, Claim 7 is believed to be allowable because it adds limitations that further define the subject matter of independent Claim 1.

Conclusion

Applicants believe that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein are allowable to Applicants. In view of the foregoing points that distinguish Applicants' invention from those of the prior art and render Applicants' invention novel, Applicants respectfully request that the Examiner reconsider the present application, remove the rejections, and allow the application to issue.

If the Examiner believes that a telephone conference with Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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